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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/608,976

06/27/2003

David E. Rodrigues

RD28584-1

6404

23413 7590 02/06/2009  
CANTOR COLBURN, LLP  
20 Church Street  
22nd Floor  
Hartford, CT 06103

EXAMINER

VIJAYAKUMAR, KALLAMBELLA M

ART UNIT

PAPER NUMBER

1793

NOTIFICATION DATE

DELIVERY MODE

02/06/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptopatentmail@cantorcolburn.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/608,976	<b>Applicant(s)</b> RODRIGUES, DAVID E.	
	<b>Examiner</b> KALLAMBELLA VIJAYAKUMAR	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-19 is/are pending in the application.
- 4a) Of the above claim(s) 14-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

Applicants arguments filed 11/04/2008 have been entered and fully considered.

Claims 1-8 and 10-13 are currently being prosecuted. Claims 14-19 withdrawn from further consideration.

### ***Claim Rejections - 35 USC § 102***

### ***Claim Rejections - 35 USC § 103***

- The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

- The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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1. Claims 1-5, 7-8 and 10-13 are rejected under 35 U.S.C. 102(e/a) as being anticipated by or under 35 U.S.C. 103(a) as being unpatentable over Koevoets et al (US 6,469,093).

Koevoets et al teach the composition of a conductive PPE/PA blend about 0.4 wt% to about 3 wt% carbon fibrils (Abstract). The PPE had an intrinsic viscosity of 0.1-0.6 dl/g and further teaches mixing high viscosity and low viscosity PPE blends (CI-3, Ln 11-24); and the PA had viscosity 110-240 ml/g (CI-4, Ln 16-21). The prior art further teaches the addition of talc in the composition as a filler (CI-4, Ln 36-40); and compatibilizer such as liquid diene polymer and polyolefin wax (CI-5, Ln 30-45; 62-67); and alcohols (CI-7, Ln 7-13) <plasticizer/s> (Also, See Mitzutani et al ; US 5,504,128; CI-1, Ln 10-21). The conductive material was carbon and the like including carbon black and carbon fibrils (CI-4, Ln 44-63). Applicants define a plasticizer is a low molecular weight organic or inorganic species, which can facilitate a reduction in melt viscosity during the blending of the polymeric resin with the carbon nanotubes (Spec. Pg-12, P-0038) and several components meet this limitation. Further, the customary additives included effective amounts of plasticizers (CI-9, Ln, 25-35).

The prior art further teaches pre-compounding carbon fibrils with/without talc in PA forming a master batch and letting down the master-batch at the down spout into an extruder containing molten PPE forming a compounded composition was formed into articles (CI-9, Ln 42 – CI-12, Ln 38). The prior art further teaches the melt viscosity of the composition to be about 150 Pa.s or less. The specific examples contained 1-1.6 wt% carbon fibrils and anticipates the CF ratio in the instant claims. The instant claims recite the limitation of  $R_{\text{parallel}}/R_{\text{perpendicular}} \geq 0.15$  i.e. it needs isotropic nature of  $\geq 15\%$  i.e. not a uniform isotropic distribution of fibers/properties. With regard to the resistivity ratios, the prior art composition, components processed therein and the method of making the composition including the process steps and the devices are either same or substantially same as that claimed by the instant claims, and When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986). With regard to claim-13, the prior art article is either same or substantially same as that claimed by the applicants, and When the reference teaches a product that appears to be the same as, or an obvious variant of, the product set forth in a product-by-

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process claim although produced by a different process, the claim is not patentable. See *In re Marosi*, 710 F.2d 799, 218 USPQ 289 (Fed. Cir. 1983) And *In re Thorpe*, 777 F.2d 695, 227 USPQ 964 (Fed. Cir. 1985). See also MPEP §2113. All the limitations of the instant claims are met.

The reference is anticipatory.

In the alternative that the disclosure by Koevoets et al be insufficient to anticipate the instant claims, the instant claimed method steps nonetheless would have been obvious to a person of ordinary skilled in the art over the disclosure because the reference teaches each of the claimed ingredients within the structure and a method of making it, and it has the same common utility as conductive plastic. The burden is upon the applicant to prove otherwise. *In re Fitzgerald*, 619 F.2d 67, 205 USPQ594 (CCPA 1980).

2. Claims 1-5, 7-8 and 10-13 are rejected under 35 U.S.C. 102(b) as being anticipated by or under 35 U.S.C. 103(a) as being unpatentable over Nahaas et al (US 5,643,502).

Nahaas et al teach a method of making a conductive polymer by forming a master-batch comprising low viscosity polycarbonate (plasticizer) and a pelletized product formed by melt kneading PC, polybutadiene and styrene acrylonitrile to provide 2%- CF, 69%-PC and 29%-ABS by melt extruding the composition. Applicants define a plasticizer is a low molecular weight organic or inorganic species, which can facilitate a reduction in melt viscosity during the blending of the polymeric resin with the carbon nanotubes (Spec. Pg-12, P-0038) and low viscosity PC meets this limitation. With regard to the resistivity ratios, the prior art composition, components processed therein and the method of making the composition including the process steps and the devices are either same or substantially same as that claimed by the instant claims, and When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. *In re King*, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986). With regard to claim-13, the prior art article is either same or substantially same as that claimed by the applicants, and When the reference teaches a product that appears to be the same as, or an obvious variant of, the product set forth in a product-by-process claim although produced by a different process, the claim is not patentable.

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See *In re Marosi*, 710 F.2d 799, 218 USPQ 289 (Fed. Cir. 1983) And *In re Thorpe*, 777 F.2d 695, 227 USPQ 964 (Fed. Cir. 1985). See also MPEP §2113. All the limitations of the instant claims are met.

The reference is anticipatory.

In the alternative that the disclosure by Nahaas et al be insufficient to anticipate the instant claims, the instant claimed method steps nonetheless would have been obvious to a person of ordinary skilled in the art over the disclosure because the reference teaches each of the claimed ingredients within the structure and a method of making it, and it has the same common utility as conductive plastic. The burden is upon the applicant to prove otherwise. *In re Fitzgerald*, 619 F.2d 67, 205 USPQ594 (CCPA 1980).

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Koevoets et al (US 6,469,093) or over Nahaas et al (US 5,643,502) in view of Wadadhara et al (US 6,384,128).

The disclosures on the composition and method of making the conductive polymeric composition by Koevoets as set forth in rejection-1 under 35 USC 102(e/a)/103(a) and by Nahaas as set forth in rejection-2 under 35 USC 102(b)/103(a) are herein incorporated

The prior art/s fail/s to teach a composition containing carbon black/conductive filler added to fibril-containing polymeric compositions. However, Koevoets teaches that any conductive material that does not significantly adversely effect the physical characteristics of the thermoplastic composition such as carbon or the like and their use in automotive parts (CI-4, Ln 45-48; CI-12, Ln 35-39). Nahaas teaches the application of the molded plastic for electrostatic painting, electronic and automotive applications wherein the polymers are filled with conductive fillers (CI-1, Ln 16-29; CI-8, Ln 5-34).

In the analogous art Wadadhara et al teach the thermoplastic molding compositions containing a dispersion of Carbon black and VGCF in PPE and PA (Abstract) in forming molded articles for automotive applications or housings (CI-5, Ln 32-48; CI-9, Ln 40-44; CI-23, Ln 27-37; CI-25, Ln 21-23; CI-36, Ln 25-30).

It would have been obvious to a person of ordinary skilled in the art to add additional conductive fillers in the thermoplastic molding compositions of either Koevoets et al or Nahaas et al as a choice of

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design of material composition for automotive parts, with predictable results and reasonable expectation of success because it was well known to add additional conductive fillers in the thermoplastic molding compositions for automotive parts at the time of the disclosure of the invention by the applicants as disclosed by Wadadhara et al.

4. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by or under 35 U.S.C. 103(a) as being unpatentable over Creehan (US 5,445,327).

Creehan teaches a composite comprising a polymer such as polyester, polyamide or polyurethane; a filler comprising carbon fibrils and carbon black; and a viscosity modifier such as a solvent (MEK, water mineral oil) or a reactive diluent (styrene, acrylates), which is made by mixing the components in a stirred ball mill with shear and impact forces and **substantially uniformly dispersing the filler throughout the matrix** material, and this will inherently meet the ratio of resistivities (Abstract, Cl-1, Ln 36-Cl-2, Ln 48; Cl-3, Ln 2-59). When the reference teaches a product that appears to be the same as, or an obvious variant of, the product set forth in a product-by-process claim although produced by a different process, the claim is not patentable. See *In re Marosi*, 710 F.2d 799, 218 USPQ 289 (Fed. Cir. 1983) And *In re Thorpe*, 777 F.2d 695, 227 USPQ 964 (Fed. Cir. 1985). See also MPEP §2113. All the limitations of the instant claims are met.

The reference is anticipatory.

In the alternative that the disclosure by Creehan et al be insufficient to arrive at the claimed article, it would have been obvious to a person of ordinary skill in the art to optimize the degree of dispersion of particles in the matrix by varying the milling time with reasonable expectation of success, because the prior art is suggestive of tailoring degree of uniformity with improved composite properties (Col 2, Ln 51-59; Col-4, Ln 12-18; Table-1).

### ***Response to Arguments***

Applicant's arguments with respect to claims have been considered but not persuasive to overcome the rejections cited in the last office action for the following reasons:

Applicants argument that Creehan (US 5,445,327) does not teach all the limitations of the process condition including the melt-blending components is noted (Res, Pg-5-7, but fail to patentably distinguish their product by process claim over the prior art composition, and the rejection over this prior art is maintained. With regard to the argument that Creehan teaches away from the claimed invention, the shape/size of the composition is not the limitation of the instant claims (Res, Pg-7, Para-4).

In response to the argument that Koevets et al teach several methods of mixing the components and the addition of talc teaches away because of the increased viscosity (Pg-8, Para-1 to Pg-9, Para-2) is not persuasive because talc is used by the applicants as a filler, and it will have the same effect in the prior art processing of the components containing talc because similar compositions will exhibit similar properties (See, Spec; US 2004/0262581; P-0043). Furthermore, maintaining the aspect ratio of the nanotube is not the limitation of the instant claims. With regard to Knovets not realizing the synergistic effect and it would not result in the claimed composition and would never be met is not persuasive (Res, Pg-9-11) over the Fig-1 and 2 of the prior art that shows the resistance of the product as a function of melt viscosity and their importance. Furthermore, applicants show no synergistic effect at 2.5 wt% and 3 wt% VGCF (See Fig-2 and 7) and 3 wt% VGCF (Fig-5) of the instant Specification.

In response to the argument that Nahaas does not teach a plasticizer and is inaccurate (Res, Pg-13, Para-3), because Nahaas does not teach using a lower molecular weight polymer than the polymer employed in the masterbatch is not persuasive, because that is not the limitation of the instant claims and furthermore, the limitation of comprising will not preclude the additions of components of Nahaas in the instant claimed process, and the synergy of the components would be mutual between the components of the prior art during processing including the dilution of masterbatch. With regard to Nahass not realizing the synergistic effect and it would not result in the claimed composition is not persuasive (Res, Pg-14-16) over its desire to attain uniform dispersion of fibrils in the matrix by attaining desired viscosity of the compounding mixture i.e. synergistic effect in the composition (CI-7, Ln 50-63). Furthermore, applicants show no synergistic effect at 2.5 wt% and 3 wt% VGCF (See Fig-2 and 7) and 3 wt% VGCF (Fig-5) of the instant Specification.



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In response to the argument that Wadahara et al is directed to flame retardant compositions is not persuasive because, it teaches the addition of conductive fibers and carbon black in the conductive composition (Abstract; Cl-1, Ln 12-17) and relevant to the combination rejection over either Nahaas or Koevets et al

For the reasons set forth above applicants fail to patentably distinguish their process and product by process over the prior art.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KALLAMBELLA VIJAYAKUMAR whose telephone number is (571)272-1324. The examiner can normally be reached on M-F 07-3.30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 5712721358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KMV/  
January 31, 2009.

/Stuart Hendrickson/  
Primary Examiner, Art Unit 1793